

April 3, 2006

Macedonia Dreams of One Nation, Wireless

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KANATLARCI, Macedonia — Thirteen-year-old Nustreta Mimovic's hand trembled as she placed it over the computer mouse. Slowly she dragged the mouse and watched the screen, as her fellow students looked on.

"I'd love to know how to use it, but I don't have a computer," she explained, giving up the controls to another pupil.

Nustreta's unfamiliarity with technology is common in Macedonia, a poor former Yugoslav republic where it is estimated that as little as 4 percent of the population has regular access to computers and the Internet.

Within a year, if the government has its way, those figures could be turned around with the creation of a wireless Internet network that will be the world's largest, covering the entire nation.

Supporters of the network believe that it will deliver more than just a means of mass communication. They hope it will provide new opportunities to ordinary people, schools and businesses in communities like Kanatlarci, one of hundreds of remote villages spread across this mountainous nation.

Government officials believe affordable access to the Internet could help transform a moribund economy, but that aim is proving difficult to realize.

The cost of going online remains prohibitively expensive at about \$1.30 an hour for a dial-up connection, a substantial sum in villages like Kanatlarci, where workers earn an average of \$150 a month, mainly through agriculture. The cost of a broadband connection is beyond most people's dreams at \$45 a month for the most basic service.

The source of the problem, service providers and technology-based businesses say, is that access to the Internet is dominated by the country's telecommunications company, Makedonski Telekomunikacii, known as Maktel. Maktel, formerly a state-owned monopoly, is now partly privatized and is 53 percent owned by Magyar Telekom, the Hungarian subsidiary of Deutsche Telekom.

Maktel users say that while they depend on the company, they resent its service, which they say stifles competition in order to retain its substantial profits.

It is a battle that can be seen throughout the developing world, and in some developed economies, too, where incumbent telecom operators, often state-owned, appear reluctant to allow competition from rival Internet service providers, most notably with the arrival of low-cost Internet phone calls.

In Macedonia's case, telecommunications analysts, including the main governmental regulator for the industry, say the government's desire to provide fair competition in the sector is also being undermined by the substantial dividends — worth more than \$51 million in 2004 — it receives from Maktel.

While the possibilities offered by the Internet may still seem remote to most of Macedonia's population, a fast-growing technology industry based around the capital, Skopje, has already begun to show that jobs can come from outside agriculture or heavy industry, currently the main sectors of employment. One company, FX3X, which does computer animation, worked on the Hollywood film "The Aviator."

"Most people's dream is some form of job in an old-style Communist industry, or to be employed in a state bureaucracy where you might as well be retired as soon as you start work," said Milivoje Gjorgjevic, the manager of FX3X. "We are creating a clean industry. It's changing the mind-set."

Last year, the government introduced a law opening up Internet access to increased competition, meant to give people greater access to computer technology. However, Internet service providers still depend on Maktel for access to customers and say that this reliance gives Maktel too much power over pricing.

It was partly to avoid Maktel's costs that Macedonia's new wireless network was created. In a project called Macedonia Connects, the United States Agency for International Development paid \$2.5 million to provide 461 schools, including the one here in Kanatlarci, with access to the Internet. The most affordable means was through a wireless network.

The creation of the wireless network for schools has shown that an alternative network can exist independently of Maktel and offer substantially lower costs.

"One of the benefits of the Macedonia Connects project is that pricing for broadband connectivity went from nearly 120 to 23 euros per month due to the creation of a separate networking infrastructure completely independent of Maktel," said Glenn Strachan, the director of Macedonia Connects. Consequently, Mr. Strachan said, Maktel had to cut its prices to compete.

Susanna Karolyi, Maktel's communications director, said that senior executives were unavailable for interviews and disputed suggestions that the

company was abusing its dominant role in the marketplace. "We work based on international professional standards and act in line with the local rules of this country," Ms. Karolyi wrote in an e-mail message.

Newcomers in the industry can now compete more freely against Maktel but fear that the government does not regulate the business fairly.

The main government telecommunications regulator agrees. "We have a bottleneck," said Kosta Trpkovski, the director of the government regulatory authority. He said his agency did not have sufficient powers to prevent Maktel from trying to restrain fair competition.

Providers of telephone calls made over the Internet, usually at the fraction of the cost of a phone connection, complain that Maktel has disrupted their lines.

[On.net](#), the local private company that worked with Usaid, the American development agency, to create the network for schools, tried to set up a low-priced computer phone service last summer. It found that few of those calls got through.

Until recently, Maktel's contracts with both business and private subscribers had forbidden the use of computer generated calls, a demand that violates the new telecommunications law. Maktel has, however, recently signed an agreement with the American company Nextel, which allows these kinds of calls.

Maktel says this latest deal shows it is open to increased competition. Still, Mr. Trpkovski, the government regulator, said his agency needed more teeth.

"For the opening of the market, it is not enough for this agency to work alone," he said. "It needs some consensus within the government."